UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,649	07/28/2003	Jeffrey M. Besterman	MET-011DV	4430

32254 7590 09/11/2006

KEOWN & ASSOCIATES
500 WEST CUMMINGS PARK
SUITE 1200
WOBURN, MA 01801

EXAMINER	
SHIAO, REI TSANG	

ART UNIT	PAPER NUMBER
1626	

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/628,649	BESTERMAN ET AL.	
	Examiner	Art Unit	
	Robert Shiao	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-7,16-18,22-24 and 51-61* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *22* is/are allowed.

6)☒ Claim(s) *51-55* is/are rejected.

7)☒ Claim(s) *5-7,16-18,23,24 and 56-61* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Amendment including cancellation of claims 1-4, 8-15, 19-21, and 25-50, addition of claims 51-61 and a filed terminal disclaimer in the amendment filed on May 15, 2006, is acknowledged. Claims 5-7, 16-18, 22-24 and 51-61 are pending in the application. No new matter is found. Since the newly added claims 51-61 are commensurate with the scope of the invention, therefore, claims 5-7, 16-18, 22-24 and 51-61 are prosecuted in the case.

Responses to Amendment/Arguments

2. Applicant's arguments regarding the rejection of claims 23-24 under 35 U.S.C. 112, first paragraph, filed on May 15, 2006, have been fully considered and they are persuasive. The rejection of claims 23-24 under 35 U.S.C. 112, first paragraph, has been withdrawn herein.

3. Applicant's arguments regarding the rejection of claims 6-7 and 17 under 35 U.S.C. 112, second paragraph, filed on May 15, 2006, have been fully considered and they are persuasive. The rejection of claims 6-7 and 17 under 35 U.S.C. 112, second paragraph, has been withdrawn herein.

4. Since the filed terminal disclaimer has been approved in the Office, therefore, the rejection of claims 16-18 and 22-24 under obviousness-type doubling patenting over Besterman et al. US 6,608,046, has been overcome in the amendment filed on May 15, 2006.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 51-55 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for instant claimed methods of use of compounds of formula (II) for inhibiting bacterial growth, does not reasonably provide enablement for instant claimed methods of use of compounds of formula (II) other than inhibiting bacterial growth, i.e., heart disease. The specification does not enable any person skilled in the art to which it pertains, with which it is most nearly connected, to use the invention commensurate in scope with these claims, see claims 51-55.

For rejections under 35 U.S.C. 112, first paragraph, the following factors must be considered (In re Wands, 8 USPQ2d 1400, 1988):

1) Nature of invention.

2) State of prior art.

3) Level of ordinary skill in the art.

4) Level of predictability in the art.

5) Amount of direction and guidance provided by the inventor.

6) Existence of working examples.

7) Breadth of claims.

8) Quantity of experimentation needed to make or use the invention

based on the content of the disclosure.

In the instant case:

Nature of the invention

The nature of invention is a method of use of compound of formula (II) without limitation of treated diseases.

The state of prior art and the predictability or lack thereof in the art

The state of the prior art is that the pharmacological art involves screening in vitro and in vivo to determine which pharmaceutical compounds exhibit the desired pharmacological activities (i.e. what pharmaceutical compounds can treat which specific diseases by what mechanism). There is no absolute predictability even in view of the seemingly high level of skill in the art. The existence of these obstacles establishes that the contemporary knowledge in the art would treat one of ordinary skill in the art from accepting any therapeutic regimen on its face.

The instant claimed invention is highly unpredictable as discussed below:

It is noted that the pharmaceutical art is unpredictable, requiring each embodiment to be individually assessed for physiological activity. In re Fisher, 427 F.2d 833, 166 USPQ 18 (CCPA 1970) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute.

Applicants are claiming a pharmaceutical compounds effective for inhibiting β-lactamase activity without limitation of treating diseases. As such, the specification fails to enable the skilled artisan to use the compounds/compositions of the formula (II)

to treat diseases other than inhibiting bacterial growth. In addition, there is no proof that the claimed compounds/compositions have ever been administered to a human or to an animal model. The existence of these obstacles establishes that the contemporary knowledge in the art would treat one of ordinary skill in the art from accepting any treatment regimen on its face. In addition, there is no established correlation between in vitro activity and accomplishing treatment of diseases other than inhibiting bacterial growth, in vivo, and those skilled in the art would not accept allegations in the instant specification to be reliable predictors of success, and those skilled in the ad would not be able to use the compounds/compositions of the formula (II) since there is no description of an actual method wherein the above diseases in a host is treated.

Hence, one of skill in the art is unable to fully predict possible results from the administration of the compound/compositions of the claims due to the unpredictability of the treatment of diseases other than inhibiting bacterial growth, is known to have many obstacles that would prevent one of ordinary skill in the art from accepting treatment regimen on its face.

The amount of direction or guidance present and the presence or absence of working examples

The only direction or guidance present in the instant specification is the listing of in vitro bacterial growth inhibiting test and β-lactamase enzyme activity test, which are correlated with inhibition of bacterial growth associated with inhibition of β-lactamase enzyme activity, see Example 3-4 pages 42-46. There are no in vitro or in vivo working

examples present for the treatments directly related to any diseases other than inhibiting bacterial growth by the administration of pharmaceutical compounds of the instant invention.

The breadth of the claims

The breadth of the claims is a pharmaceutical compound effective for inhibition of β-lactamase enzyme activity without limitation of treated diseases.

The quantity of experimentation needed

The quantity of experimentation needed is undue experimentation. One of skill in the art would need to determine what any diseases would be benefited by the administration of the pharmaceutical compounds of the instant invention and would furthermore then have to determine which of the claimed methods of use would provide the treatment of any diseases, if any.

The level of the skill in the art

The level of skill in the art is high. However, due to the unpredictability in the pharmaceutical art, it is noted that each embodiment of the invention is required to be individually assessed for physiological activity by in vitro and in vivo screening to determine which compounds exhibit the desired pharmacological activity and which diseases would benefit from this activity. Thus, the specification fails to provide sufficient support of the broad use of the pharmaceutical compounds of the instant claims for the treatment of any diseases. As a result necessitating one of skill to perform

an exhaustive search for which any obesity-related disorders can be treated by what pharmaceutical compounds of the instant claims in order to practice the claimed invention.

Genentech Inc. v. Novo Nordisk A/S (CA FC) 42 USPQ2d 1001 , states that " a patent is not a hunting license. It is not a reward for search, but compensation for its successful conclusion" and "patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable".

Therefore, in view of the Wands factors and In re Fisher (CCPA 1970) discussed above, to practice the claimed invention herein, a person of skill in the art would have to engage in undue experimentation, with no assurance of success. This rejection can be overcome by incorporation of named diseases (i.e., inhibiting bacterial growth) or treated conditions (i.e., in vitro) into the claims.

6. Claim 22 is neither anticipated nor rendered obvious over the art of record, and therefore are allowable. This invention relates to cytokine inhibitors.

Objection

7. Claims 5-7, 16-18, 23-24, and 51-61 are objected to as containing non-elected subject matter, i.e., fused heterocyclic, heteroaromatic ring, or heteroarylene, etc. It is suggested that applicants amend the claims to the scope of the elected subject matter as defined on the page 2 of the previous Office action, dated 01/17, 2006.

8. This action is a **final rejection** and is intended to close the prosecution of this application. Applicant's reply under 37 CFR 1.113 to this action is limited either to an appeal to the Board of Patent Appeals and Interferences or to an amendment complying with the requirements set forth below.

If applicant should desire to appeal any rejection made by the examiner, a Notice of Appeal must be filed within the period for reply identifying the rejected claim or claims appealed.

If applicant should desire to file an amendment, entry of a proposed amendment after final rejection cannot be made as a matter of right unless it merely cancels claims or complies with a formal requirement made earlier. Amendments touching the merits of the application which otherwise might not be proper may be admitted upon a showing a good and sufficient reasons why they are necessary and why they were not presented earlier.

A reply under 37 CFR 1.113 to a final rejection must include the appeal from, or cancellation of, each rejected claim. The filing of an amendment after final rejection, whether or not it is entered, does not stop the running of the statutory period for reply to the final rejection unless the examiner holds the claims to be in condition for allowance. Accordingly, if a Notice of Appeal has not been filed properly within the period for reply, or any extension of this period obtained under either 37 CFR 1.136(a) or (b), the application will become abandoned.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Shiao whose telephone number is (571) 272-0707. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on (571) 272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KAMAL A. SAEED, PH.D.
PRIMARY EXAMINER

Joseph K. McKane
Supervisory Patent Examiner
Art Unit 1626

R.S.

Robert Shiao, Ph.D.
Patent Examiner
Art Unit 1626

September 05, 2006